

## Xylem's Flojet brand and Flow Loop partner on innovative and sustainable shower solution

### Customer Challenge

Approximately 75% of the earth's surface is covered in water, but only 2.5% of this is freshwater. That's water that is used to support sustainable development activities such as food production, power generation, manufacturing, and sanitation. Despite the relatively low supply, more than 10 billion tons of freshwater is used on a daily basis, with agriculture and industry responsible for the largest withdrawals.

However, over the last fifty years, domestic water demand has grown 600% - significantly higher than any other sector. Today, domestic water use accounts for approximately 10% of the global freshwater total, and this figure is only set to increase as populations continue to rise. In Europe, the average water consumption per person is at least 100 liters (26 gallons) per day, while in the United States, this figure stands at more than 500 liters (132 gallons).

Body care, including showering and bathing, is the biggest water consuming activity within domestic households, accounting for around 40% of daily consumption. In a bid to make showering more water efficient, Danish start-up company Flow Loop designed the 'LOOP' - a sustainable yet luxurious recycling shower solution that reduces water consumption by 80%.

### Customer Solution

The system works by filtering and purifying the water before looping it back to the consumer through a smart panel that can be retrofitted into most shower units. Powered by the Internet of Things (IoT), the panel takes the 'waste' water, otherwise destined for the drain, up through a suction inlet at the base of the shower. From there, the water is passed through a prefilter and microfilter before it is further 'cleaned' by a built-in UV purifier.



The open loop recirculating shower system reduces water consumption by up to 80% and energy usage by 70%.

The purification system has been tested under the most stringent conditions. The UV light within the system eliminates 99.999% of pathogen bacteria and viruses, and the system has been quality approved by the Technical University of Denmark (DTU) and Eurofins. The result is a clean, sustainable shower solution that only uses 15-25 liters (4-7 gallons) of water per shower compared to 100 liters (26 gallons) or more for traditional showers.

Because the water is recirculated, the solution also delivers energy savings of up to 70%. The water temperature stays consistent during the entire shower, and consumers can decide when they want to recirculate the water, and when they don't, simply by tapping the drain cover. Due to its smart capabilities, the panel also keeps track of water savings - allowing owners to review results in real time.

### **Xylem Solution**

In designing the solution, Flow Loop required a reliable pumping system that could easily be built into the smart panel. The pump had to be compact yet powerful enough to provide a flow rate of 12 liters (3 gallons) per minute minimum, at the user-selected temperature, while operating at a duty cycle of up to 60 minutes. Furthermore, the pump could only operate at a maximum decibel level of 55 to ensure a comfortable shower experience.

Working with Flow Loop, Xylem's Flojet brand designed a customized solution that met the required specifications. Xylem's team of product engineers identified the most durable Flojet technology that balanced high performance and suction capability while keeping within the maximum desired noise level when in operation. This unique Flojet design allowed Flow Loop greater motor speed control to reduce the overall noise level of the shower system in general.

"As a market leader in controlled flow pumping technology, Flojet brings the highest level of reliability, precision and control to a wide range of critical applications. Our deep domain knowledge and water system expertise mean we are well equipped to solve even the toughest customer challenges - using highly efficient technologies that use less energy and reduce lifecycle costs", said Young Baeg, Associate Product Manager, Specialty Flow Control, Xylem.



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